

CLAIMS

1. A plasma display device comprising:
a power module which has a plurality of
power devices; and

5 temperature detecting unit installed in
said power module,

wherein the temperature of said power
module is controlled by feeding temperature information
detected by said temperature detecting unit back to input
10 signal control unit.

2. The plasma display device according to
claim 1, wherein when the temperature of said power module
reaches or exceeds a predetermined value, the output of
15 said power module is blocked.

3. The plasma display device according to
claim 1, wherein when the temperature of said power module
rises above a predetermined value, control is performed
20 to hold the temperature of said power module at a fixed
value, and when this condition remains unchanged for a
predetermined time period, the output of said power module
is blocked, thereby entering a low power consumption mode.

25 4. The plasma display device according to
claim 1, wherein said power module is used to perform a
sustain discharge on a plasma display panel.

5. The plasma display device according to claim 1, wherein when said power module is used to display an image, said temperature information is converted into a temperature increase saturation temperature of said power module using a conversion table stored in advance in a storage device, and said converted temperature increase saturation temperature of said power module is compared with a predetermined temperature,

whereby, when said temperature increase saturation temperature of said power module is lower than said predetermined temperature, the temperature of said power module is detected by said temperature detecting unit, and

when said temperature increase saturation temperature of said power module is equal to or greater than said predetermined temperature, image quality adjustment is performed by reducing a number of sustain pulses in said sustain discharge of said plasma display panel.

6. The plasma display device according to claim 1, wherein when said power module is used to display an image, a temperature increase saturation temperature of said power module is calculated using a coefficient stored in advance in a storage device from said temperature information, and said calculated temperature increase saturation temperature of said power module is compared

with a predetermined temperature,

whereby, when said temperature increase saturation temperature of said power module is lower than said predetermined temperature, the temperature of said power module is detected by said temperature detecting unit, and

when said temperature increase saturation temperature of said power module is equal to or greater than said predetermined temperature, image quality adjustment is performed by reducing a number of sustain pulses in said sustain discharge of said plasma display panel.

7. The plasma display device according to claim 1, wherein said temperature information detected by said temperature detecting unit is a voltage.

8. The plasma display device according to claim 5 or claim 6, wherein said predetermined temperature is a solder surface prescribed temperature value.

9. The plasma display device according to claim 1, wherein said input signal control unit control a number of pulses in said sustain discharge of said plasma display panel in accordance with said temperature information.

10. The plasma display device according to

claim 1, wherein said input signal control unit control a voltage level of said sustain discharge of said plasma display panel in accordance with said temperature information.

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11. The plasma display device according to claim 1, wherein said input signal control unit control a magnitude of a power source current used in said sustain discharge of said plasma display panel in accordance with
10 said temperature information.

12. The plasma display device according to claim 1, wherein said power module is disposed in a perpendicular direction to the ground, and said temperature
15 detecting unit are disposed in an upper portion of said power module.

13. The plasma display device according to claim 12, wherein said power module is provided in a
20 plurality, and said temperature detecting unit are disposed in the respective upper portions of said power modules.

14. The plasma display device according to claim 12, wherein said power module is provided in a
25 plurality, and said temperature detecting unit is disposed in the upper portion of said power module disposed in the uppermost position.

15. A power module which drives a plasma display panel in accordance with a signal from input signal control unit, comprising:

5 a plurality of power devices for generating a drive signal for said plasma display panel; and

temperature detecting unit which detects the temperature of said power module,

10 wherein the temperature of said power module is controlled by feeding temperature information detected by said temperature detecting unit back to said input signal control unit.

16. The power module according to claim 15, wherein when said power module temperature reaches or exceeds a predetermined value following feedback of said temperature information detected by said temperature detecting unit to said input signal control unit, the output of said power module is blocked.

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17. The power module according to claim 15, wherein said temperature information detected by said temperature detecting unit is fed back to said input signal control unit, when said power module temperature exceeds
25 a predetermined value, control is performed to hold said power module temperature at a fixed value, and when this condition remains unchanged for a predetermined time period,

the output of said power module is blocked, thereby entering a low power consumption mode.

18. The power module according to claim 15,
5 wherein said power module is used to perform a sustain discharge on said plasma display panel.

19. The power module according to claim 15,
wherein said temperature detecting unit comprise a
10 temperature detection element provided in the vicinity of said power devices, and a temperature detection circuit, connected to said temperature detection element, for outputting the temperature information that corresponds to the output of said temperature detection element.

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20. The power module according to claim 15,
wherein said temperature detecting unit comprise a temperature detection element provided in the vicinity of said power devices,

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said temperature detection element is connected to a temperature detection circuit provided on the exterior of said power module, and

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said temperature detection circuit outputs the temperature information that corresponds to the output of said temperature detection element.

21. The power module according to claim 20,

wherein said temperature detection element is a thermistor,
and said temperature detection circuit outputs said
temperature information on the basis of a resistance
characteristic of said thermistor.

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22. The power module according to claim 20,
wherein said temperature detection element is a diode, and
said temperature detection circuit outputs said
temperature information on the basis of a forward direction
10 voltage characteristic of said diode.

23. The power module according to claim 20,
wherein said temperature detection element is a
thermo-electric couple, and said temperature detection
15 circuit outputs said temperature information on the basis
of a voltage characteristic of said thermocouple.